

ABSTRACT OF THE DISCLOSURE

Silicon wafers are treated with chemicals during the manufacture of integrated circuits according to the method of the invention in the apparatus of the invention which comprises a process tank for cleaning, rinsing, and/or drying silicon wafers; a first chemical supply vessel suitable for being pressurized, fluidly coupled to the process tank; a chemical flow sensor for electronically monitoring the flow rate of chemical from the first chemical supply vessel; a first chemical flow metering valve for electronically controlling the flow rate of chemical from the first chemical supply vessel; a supply of hot DI water fluidly coupled to the process tank; a hot water metering valve for electronically controlling the flow rate of hot DI water from the supply of the hot DI water; a supply of cold DI water fluidly coupled to the process tank; a cold water metering means for electronically controlling the flow rate of cold DI water from the supply of cold DI water; water flow sensor means for electronically monitoring the flow rate of DI water; means for mixing the DI water and the first chemical to produce a solution of the first chemical in water; conductivity sensor means to electronically measure the conductivity of solution of the first chemical in water; temperature sensor means to electronically measure the temperature of the solution being supplied to the process tank; and control means for automatically adjusting the precise flow rate, temperature, pressure, and chemical concentration of solution supplied to the process tank.